Some tips on effective paper writing

Manel Martínez Ramón

Department of Electrical and Computer Engineering
The University of New Mexico

How to seduce your audience

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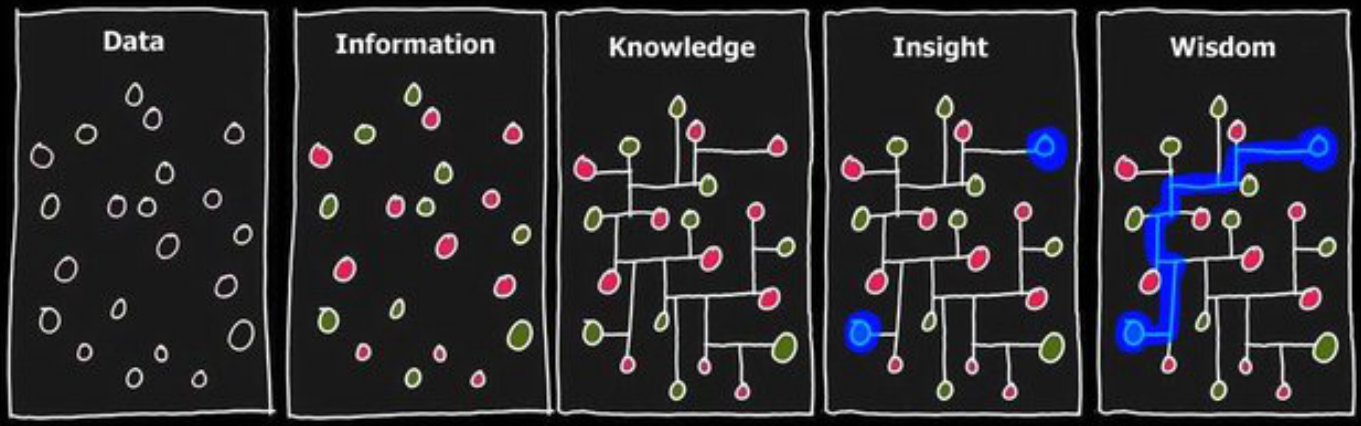
Objective of your research paper

Show the results of your research before the scientific community.



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We need a logic path

Information → Knowledge → Critical discussion

Roadmap: the introduction

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Information: Introduce your research to your audience.

Paper Title	Short, Informative
Keywords	This is how others find your work
Your research at a glance	This is how they know whether your work is what they are looking for
Your motivations	Why you did this?
The state of the art	What has been done before your work?
Your approach	Summarize what you did. WHAT IS THE NOVELTY
Its advantages and trade-offs	Why is your research worth? What is better? What is the price of applying your approach?

Roadmap: the introduction

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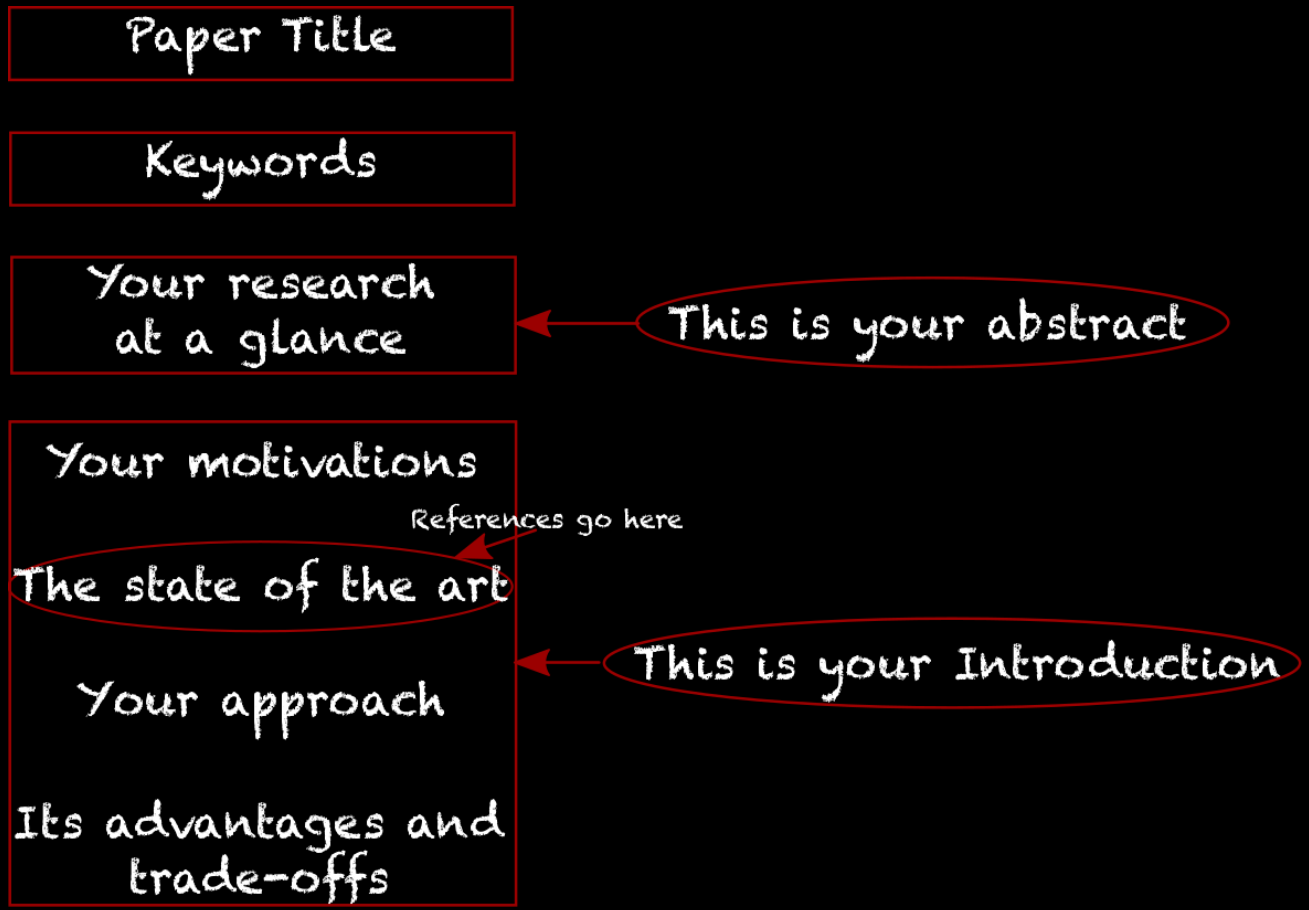
Information: Introduce your research to your audience.



Things not to forget in your introduction

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State of the art

It is not written:

- To show off your wide knowledge of the topic.
- To meaninglessly list all what it is done in the area.

It is important for:

- Putting your reader in context.
- Summarize the methods, advantages and trade-offs of related work.

Summary of your research

- It must clearly explain what you intend to do.
- It must be compared to the above state of the art to **clearly show the novelty of your approaches**.

Roadmap: the theory

Knowledge: Introduce your approach

- Summarize the theoretical background
  - Here you introduce what is needed to understand the theory below
- Derive your approach
  - Explain your approach from a theory perspective
- Explain your algorithms
  - Here you explain how to apply your approach
- Provide some explanation of the advantages of your approach
  - Justify its advantages

Roadmap: the experiments

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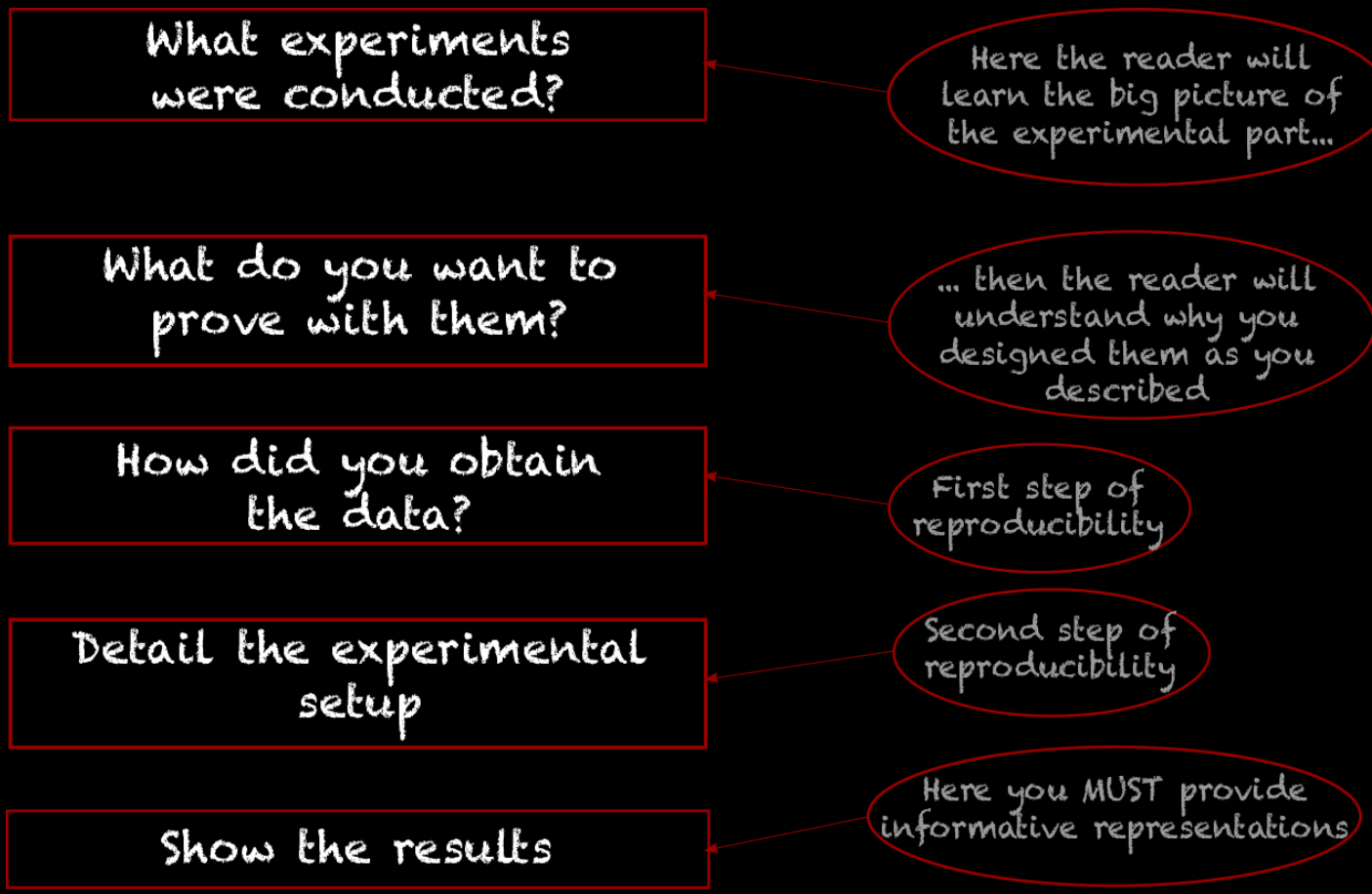
Knowledge: show the practical application of your approach



Things to remember about your experiments

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Fully describe your experiments

- What you did
- Why you did it like that

Make sure they are REPRODUCIBLE

- How you generated your data
- All other details: chosen parameters, statistical measures...

Be informative

- Present the results in a clean way.
- Present the results in a clear way.
- Comment all graphs, figures, etc in your text.
- Always use captions.

Your discussion and conclusions

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Discussion

- Analyze your results being critical with yourself
- Compare your results with the state of the art
- Discuss the advantages and trade-offs of your approach.

Conclusion

The conclusion is useful for:

- Reviewing all what you present for your reader to get the big picture
- Mentioning what research paths can be taken from this

So, summarize everything explaining in a structured way what is important, what is worth to remember. Explain your future plans regarding this research, if any.

My conclusion

The purpose of articles is to disseminate knowledge in a useful way. Thus, usually the next sections are needed:

- Introduction: to put your work in context; summarize the state of the art in order to show that your work is original and it addresses problems from new points of view.
- Theory: to explain your approaches with detail. You may need a background summary prior to that.
- Experiments: essential in many papers. The description must be sufficient to reproduce exactly what you did.
- Results must clearly show your claims. Be extremely careful with graphs and other representations that may become messy.
- Discuss in a critical way. Compare yourself in a fair way. Point out what is good and bad of your approach.
- Summarize all so the reader can see the whole thing at a glance.